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In the United States Patent & Trademark Office

In re Application of:

KOCHENDOERFER, Gerd, G.

Examiner:

#4

Serial No.: 10/030,214 ✓
(Nat'l. Phase of PCT/US00/06297)

Art Unit:

Filed: 09 March 2000

Atty. Dkt.: 3504.290
GRFN 031/01-US

For: **Chemical Synthesis and Use of Soluble
Membrane Protein Receptor Domains**

**Information Disclosure Statement
Pursuant to 37 C.F.R. § 1.97(b)(1)**

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. Copies of the documents are enclosed herewith. The submitted documents are:

AA1	U.S. Patent No. 5,462,856	Lerner <i>et al.</i>
AB1	U.S. Patent No. 5,726,290	Bodary <i>et al.</i>
AC1	U.S. Patent No. 5,783,402	Konig <i>et al.</i>
AD1	U.S. Patent No. 5,837,486	Bodary <i>et al.</i>

AL1	PCT International Patent Appln. Publn. No. WO 95/03321
AM1	PCT International Patent Appln. Publn. No. WO 98/56807
AN1	PCT International Patent Appln. Publn. No. WO 00/53624
AL2	PCT International Patent Appln. Publn. No. WO97/39131

AR1 Bobovnikova, Y. *et al.*, "Characterization Of Soluble, Disulfide Bond-Stabilized, Prokaryotically Expressed Human Thyrotropin Receptor Ectodomain," *Endocrinology* (1995) 138:588-593

- AS1 Bozon, V. *et al.*, "Influence Of Promoter And Signal Peptide On The Expression And Secretion Of Recombinant Porcine LH Extracellular Domain In Baculovirus/Lepidopteran Cells Or The Caterpillar System," J. Mol. Endocrinol. (1995) 14:277-284
- AT1 Cao, Y.J. *et al.*, "The Amino-Terminal Fragment Of The Adenylate Cyclase Activating Polypeptide (PACAP) Receptor Functions As A High Affinity PACAP Binding Domain," Biochem Biophys Res. Commun. (1995) 212(2):673-680
- AR2 Chow, B.K., "Functional Antagonism Of The Human Secretin Receptor By A Recombinant Protein Encoding The N-Terminal Ectodomain Of The Receptor," Recept. Signal Transduct. (1997) 7:143-150
- AS2 Cornish, V.W., *et al.*, "Site-Specific Incorporation Of Biophysical Probes Into Proteins," Proc. Natl. Acad. Sci. USA, Vol. 91, pp. 2910-2914, April 1994
- AT2 Couvineau, A. *et al.*, "Highly Conserved Aspartate 68, Tryptophane 73 And Glycine 109 In The N-Terminal Extracellular Domain Of The Human VIP Receptor Are Essential For Its Ability To Bind VIP," Biochem. Biophys. Res. Comm. (1995) 206:246-252
- AR3 DeAlmeida, V.I. *et al.*, "Identification Of Binding Domains Of The Growth Hormone-Releasing Hormone Receptor By Analysis Of Mutant And Chimeric Receptor Proteins," Molecular Endocrinology (1998) 12:750-765
- AS3 Gether, U. *et al.*, "Fluorescent Labeling Of Purified Beta 2 Adrenergic Receptor. Evidence For Ligand-Specific Conformational Changes," J. Biol. Chem. (1995) 270:28268-28275
- AT3 Kim, J. *et al.*, "Topological Disposition Of Cys 222 In The Alpha-Subunit Of Nicotinic Acetylcholine Receptor Analyzed By Fluorescence-Quenching And Electron Paramagnetic Resonance Measurements," Biochemistry (1998) 37:(13):4680-4686
- AR4 Miranda, L. P., *et al.*, "Accelerated Chemical Synthesis of Peptides and Small Proteins," Proc. Natl. Acad. Sci. USA, Vol 96, pp. 1181-1186, February 1999
- AS4 Muir, T.W., *et al.*, "Design and Chemical Synthesis of a Neoprotein Structural Model for the Cytoplasmic Domain of a Multisubunit Cell-Surface Receptor: Integrin, (Platelet GPIIb-IIIa)," Biochemistry, Vol. 33, No. 24, 1994, pp 7701-7708

- AT4 Turcatti, G., *et al.*, "Probing the Structure and Function of the Tachykinin Neurokinin-2 Receptor through Biosynthetic Incorporation of Fluorescent Amino Acids at Specific Sites," *Journal of Biological Chemistry*, Vol. 271, No. 33, Issue of August 16, pp.19991-19998, 1996
- AR5 Wilken, J. *et al.*, "Chemical Protein Synthesis," *Curr. Opin. Biotech.* (1998) 9(4):412-426
- AS5 Willshaw, A. *et al.*, "Over-Expression Of The N-Terminal Domain Of The Glucagon-Like Peptide-1 Receptor In *Escherichia coli*," *Biochemical Society Transactions* (1998)26:S288
- AT6 Wilmen, A., *et al.*, "The Isolated N-terminal Extracellular Domain of the Glucagon-like Peptide-1 (GLP)-1 Receptor has Intrinsic Binding Activity," *FEBS Letters* 398 (1996) 43-47
- AR7 Wilmen, A. *et al.*, "Five Out Of Six Tryptophan Residues In The N-Terminal Extracellular Domain Of The Rat GLP-1 Receptor Are Essential For Its Ability To Bind GLP-1," *Peptides* (1997) 18:301-305
- AS7 Wilmen, A. *et al.*, " The Isolated N-Terminal Extracellular Domain Of The Glucagon-Like Peptide-1 (GLP)-1 Receptor Has Intrinsic Binding Activity," *FEBS Letters* (1996) 398:43-47

Applicants respectfully draw the Examiner's attention to the International Search Report for WO/0053624 (included with Document AN1). WO/0053624 is the International Patent Application upon which the present application claims priority.

The Examiner is requested to contact the undersigned in the event that any of the cited documents cannot be located, so that replacement copies can be expeditiously provided to the Examiner.

This Information Disclosure Statements is being submitted prior to an Initial Office Action. No fee is accordingly believed due for consideration of this Information Disclosure Statement. However, if the Commissioner determines that an additional fee is required in for consideration of this Information Disclosure Statement, the U.S. Patent and Trademark Office is hereby authorized to charge any

fee deficiency, or credit any overpayment, to Deposit Account No. 50-0548
referencing docket number 3504.290.

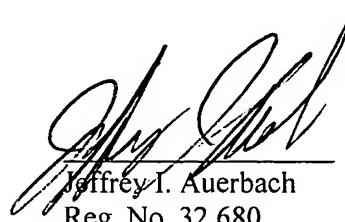
The submission of the listed and appended documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicants do not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

Applicants respectfully request that the documents listed on the accompanying Form PTO-1449 be considered and made of record in the present application. Applicants further request that the Examiner initial and return a copy of the enclosed PTO-1449, and to indicate in the official file wrapper of this patent application that the documents have been considered.

While the listed references are considered relevant to the prosecution of the present application, it is submitted that the references, either alone or in combination, do not detract from the patentability of the claimed invention.

Respectfully Submitted,

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PTO 1449		Page 1 of 4	
INFORMATION DISCLOSURE STATEMENT		Atty Dkt: 3504.290	Serial No. 10/030,214
Title: Chemical Synthesis and Use of Soluble Membrane Protein Receptor Domains		Applicant: KOCHENDOERFER, Gerd, G.	
		Filing Date: 09 March 2000	Group
U.S. PATENT DOCUMENTS			
Initial	Patent Number	Issue Date	Inventor Name
	AA1	5,462,856	31-Oct-1995 Lerner <i>et al.</i>
	AB1	5,726,290	10-Mar-1998 Bodary <i>et al.</i>
	AC1	5,783,402	21-Jul-1998 Konig <i>et al.</i>
	AD1	5,837,486	17-Nov-1998 Bodary <i>et al.</i>
FOREIGN PATENT DOCUMENTS			
	Document Number	Date	Country
	AL1	WO 95/03321	02-Feb-1995 PCT
	AM1	WO 98/56807	17-Dec-1998 PCT
	AN1	WO 00/53624	14-Sep-2000 PCT
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AR1	/	Bobovnikova, Y. <i>et al.</i> , "Characterization Of Soluble, Disulfide Bond-Stabilized, Prokaryotically Expressed Human Thyrotropin Receptor Ectodomain," Endocrinology (1995) 138:588-593	
AS1	-	Bozon, V. <i>et al.</i> , "Influence Of Promoter And Signal Peptide On The Expression And Secretion Of Recombinant Porcine LH Extracellular Domain In Baculovirus/Lepidopteran Cells Or The Caterpillar System," J. Mol. Endocrinol. (1995) 14:277-284	
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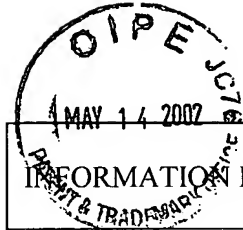
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FOREIGN PATENT DOCUMENTS							
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	AL2	WO97/39131	23-Oct-1997	PCT	C12N	15/62	

OTHERS, including Author, Title, Date, Pertinent Pages, etc.			
	AT2	/	Couvineau, A. <i>et al.</i> , "Highly Conserved Aspartate 68, Tryptophane 73 And Glycine 109 In The N-Terminal Extracellular Domain Of The Human VIP Receptor Are Essential For Its Ability To Bind VIP," Biochem. Biophys. Res. Comm. (1995) 206:246-252
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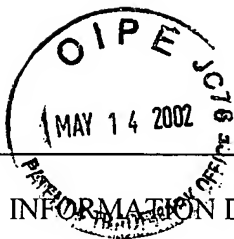
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	AR7	✓	Wilmen, A. <i>et al.</i> , "Five Out Of Six Tryptophan Residues In The N-Terminal Extracellular Domain Of The Rat GLP-1 Receptor Are Essential For Its Ability To Bind GLP-1," Peptides (1997) 18:301-305				
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